

Claims

[c1] 1. A system for automatically determining an optimal method for reducing the size of an electronic file having at least one image, comprising:
automatically determining characteristics of each image;
determining resolution characteristics of an output destination of the electronic file;
automatically setting a resolution of each image based on the output destination of the electronic file; and
automatically determining an optimal compression method for each image based on the image characteristics.

[c2] 2. The system of claim 1 further comprising applying the optimal compression method to each image for reducing the size of the electronic file.

[c3] 3. The system of claim 2 wherein the optimal compression method is applied to each image as each image is embedded in the electronic file.

[c4] 4. The system of claim 2 wherein the optimal compression method is applied to each image as the electronic file is saved.

[c5] 5. The system of claim 2 wherein the optimal compression method is applied to each image in response to a request to optimize the images made via a user interface.

[c6] 6. The system of claim 1 wherein the at least one image is embedded in the electronic file.

[c7] 7. The system of claim 1 wherein the at least one image is linked to the electronic file.

[c8] 8. The system of claim 1 wherein the electronic file includes at least one image linked to the electronic file and at least one image embedded in the electronic file.

[c9] 9. The system of claim 1 further comprising automatically discarding OLE data associated with each image.

[c10] 10. The system of claim 1 further comprising discarding OLE data associated with each image in response to a request to discard OLE data made via a user interface.

[c11] 11. The system of claim 1 further comprising discarding OLE data associated with each image following approval of discarding OLE data via a user interface.

[c12] 12. The system of claim 1 further comprising automatically downsampling each image in response to a request to downsample the images made via a user interface.

[c13] 13. The system of claim 1 further comprising automatically resampling any image in the electronic file that has been scaled from an original size for that image.

[c14] 14. The system of claim 1 further comprising automatically discarding cropped portions of each image in the electronic file.

[c15] 15. The system of claim 1 further comprising automatically discarding color information for each image in the electronic file.

[c16] 16. The system of claim 1 further comprising automatically discarding color information for each image in the electronic file in response to a request to discard color information in the images made via a user interface.

[c17] 17. The system of claim 1 further comprising automatically discarding color information for each image in the electronic file where the output device is a grayscale output device.

[c18] 18. The system of claim 1 further comprising automatically discarding any data not necessary for rendering the image.

[c19] 19. The system of claim 2 further comprising automatically preventing applying the optimal compression method more than one time to each image.

[c20] 20. The system of claim 1 wherein the optimal compression method for at least one of the images is a loss less compression method.

- [c21] 21. The system of claim 20 wherein the loss less compression method is automatically applied to each image for which the optimal compression method is the loss less compression method.
- [c22] 22. The system of claim 1 wherein the optimal compression method for at least one of the images is a lossy compression method.
- [c23] 23. The system of claim 22 wherein the lossy compression method is automatically applied to each image for which the optimal compression method is the lossy compression method.
- [c24] 24. The system of claim 22 wherein the lossy compression method is automatically applied to each image for which the optimal compression method is the lossy compression method when a calculated amount of loss is below a predetermined loss threshold.
- [c25] 25. The system of claim 22 wherein the lossy compression method is automatically applied to each image for which the optimal compression method is the lossy compression method when a calculated amount of loss is below a user defined loss threshold.
- [c26] 26. The system of claim 22 wherein the lossy compression method is applied to each image for which the optimal compression method is the lossy compression method following approval of the lossy compression via a user interface.
- [c27] 27. The system of claim 1 wherein any of the images having a size below a predefined size threshold are automatically examined to determine whether those images can be loss lessly palettized.
- [c28] 28. The system of claim 27 wherein the images having a size below the predefined size threshold that can be loss lessly palletized are automatically loss lessly palletized.
- [c29] 29. The system of claim 1 wherein a color bit depth of any of the images is automatically reduced when it is determined that a lower image bit depth will result in a visually identical image.

[c30] 30. A computer-implemented process for automatically reducing the size of an electronic file having at least one associated image, comprising:
determining characteristics of each associated image;
discarding unnecessary data associated with each associated image;
determining an optimal compression method for each associated image based on the characteristics of each associated image; and
applying the optimal compression method to each associated image.

[c31] 31. The computer-implemented process of claim 30 further comprising
determining an intended output device for the electronic file.

[c32] 32. The computer-implemented process of claim 31 further comprising
automatically downsampling each associated image to match a resolution of the intended output device.

[c33] 33. The computer-implemented process of claim 30 wherein the unnecessary data is OLE data coupled to each associated image, and wherein the OLE data is associated with at least one predefined application program.

[c34] 34. The computer-implemented process of claim 30 further comprising
automatically resampling any associated image that has been reduced in size relative to an original size for that image.

[c35] 35. The computer-implemented process of claim 30 wherein the unnecessary data is non-displayed cropped portions of each associated image.

[c36] 36. The computer-implemented process of claim 30 wherein the unnecessary data is color information for each associated image.

[c37] 37. The computer-implemented process of claim 30 wherein the unnecessary data is any data not necessary for rendering the image.

[c38] 38. The computer-implemented process of claim 30 wherein discarding unnecessary data comprises converting an NTSC image format to an sRGB image format.

- [c39] 39. The computer-implemented process of claim 31 wherein the intended output device is a grayscale output device.
- [c40] 40. The computer-implemented process of claim 39 wherein the unnecessary data is color information for each associated image.
- [c41] 41. The computer-implemented process of claim 30 wherein the optimal compression method for at least one of the associated images is a loss less compression method, and wherein the loss less compression method is automatically applied to each associated image for which the optimal compression method is the loss less compression method.
- [c42] 42. The computer-implemented process of claim 30 wherein the optimal compression method for at least one of the associated images is a lossy compression method.
- [c43] 43. The computer-implemented process of claim 42 wherein the lossy compression method is automatically applied to each associated image for which the optimal compression method is the lossy compression method.
- [c44] 44. The computer-implemented process of claim 42 wherein the lossy compression method is automatically applied to each image for which the optimal compression method is the lossy compression method when a calculated amount of loss is below a predetermined loss threshold.
- [c45] 45. The computer-implemented process of claim 30 wherein a color bit depth of any associated image is automatically reduced when it is determined that a lower image bit depth will result in a visually identical image.
- [c46] 46. A computer-readable medium having computer executable instructions for automatically reducing the size of an electronic file having at least one embedded image, said computer executable instructions comprising:
 - determining characteristics of each embedded image;
 - determining an output destination of the electronic file;
 - automatically setting a resolution of each image based on the output

destination of the electronic file; discarding unnecessary data associated with each embedded image; determining an optimal compression method for each associated image based on the characteristics of each embedded image; and applying the optimal compression method to each embedded image for reducing the size of the electronic file.

- [c47] 47. The computer-readable medium of claim 46 wherein the electronic file has at least one linked image.
- [c48] 48. The computer-readable medium of claim 47 wherein each linked image is treated in the same manner as each embedded image.
- [c49] 49. The computer-readable medium of claim 46 wherein the unnecessary data includes any of:
 - OLE data coupled to each embedded image, and wherein the OLE data is associated with at least one predefined application program;
 - non-displayed cropped portions of each embedded image;
 - color information for each embedded image; and
 - any other data not necessary for rendering the image.
- [c50] 50. The computer-readable medium of claim 46 further comprising computer executable instructions for automatically resampling any embedded image that has been reduced in size relative to an original size for that image.
- [c51] 51. The computer-readable medium of claim 46 further comprising a user interface for interacting with the computer executable instructions.
- [c52] 52. The computer-readable medium of claim 46 wherein the optimal compression method includes any of loss less and lossy compression methods, and wherein the loss less compression method is automatically applied to each embedded image for which the optimal compression method is the loss less compression method.
- [c53] 53. The computer-readable medium of claim 52 wherein the lossy compression

method is automatically applied to each associated image for which the optimal compression method is the lossy compression method.

[c54] 54. The computer-readable medium of claim 52 wherein the lossy compression method is automatically applied to each image for which the optimal compression method is the lossy compression method when a calculated amount of loss is below a predetermined loss threshold.

[c55] 55. The computer-implemented process of claim 52 wherein a color bit depth of any embedded image is automatically reduced when it is determined that a lower image bit depth will result in a visually identical image.